

9) Chlorine Solution.

- 1) Make paste of 1 tsk. chloride of lime + a little water.
- 2) Mix well in 1 cup of water.
- 3) Add 3 more cup of water - chlorine solution made.

10) 1 tsk. chlorine solution to 2 gallons of water is purification of water.

11) Filtration.

Boxes of gravel + sand, which remove suspended matter in water.

Alum coagulates impurities which are deposited in coagulation basin.

Pure water is drained off after this passage.

12) Swimming pools are purified by -

- 1) Chlorination
- 2) Filtration
- 3) Replacement of clean water.
- 4) Removal of water from tank every 2 months.

13) Pools inspected by.

- 1) Bacterial count
- 2) Chlorination test.
- 3) Water analyses.
- 4) Physical test - scum etc.

14) Federal govt controls water purification of -

- 1) Yukon, + N.W.T. territories.
- 2) Dams, reservoirs, boats, airships, ports, Indian reserves, national parks.
- 3) Construction camps of govt work.

Community and Preventable Diseases.

HAMILTON.

1. Communicable diseases can be divided into such sections as -
 - 1) Dietary diseases.
 - 2) Glandular diseases.
 - 3) Hormonal diseases.
 - 4) Respiratory diseases.
 - 5) Social or unusual diseases.
 - 6) Zoonoses.
2. Heart diseases may be caused by -
 - 1) Rheumatic fever.
 - 2) Infectious disease - diphtheria, pneumonia.
 - 3) Syphilis.
 - 4) Chronic infectious - tonsils, teeth.
 - 5) Incomplete convalescence.
 - 6) Unusual exercise - heart is strained.
 - 7) Overweight.
3. Guards against heart trouble.
 - 1) Visit doctor yearly.
 - 2) Watch infected teeth + tonsils.
 - 3) Go to the dentist often.
 - 4) Keep to a general weight average.
 - 5) Eat wisely.
 - 6) Take no headache remedies.
 - 7) Beware of tobacco and stimulants.
 - 8) Live a well-rounded life - beware of fatigue.
 - 9) Be examined after illness.

4. The common cold -

is inflammation of upper air passages.

Its signs - sneezing, throat, thirst, body ache.
and signs - running nose, headache,
watery eyes.

It is a respiratory disease.

5. Tuberculosis.

- caused by a bacillus, which leads to
formation of tubercles in the lungs.

Signs are - chills, temperature rise, difficult breathing,
pain in the side, weight loss and fatigue,
hemorrhage, enlargement of glands of neck.

6. Venereal diseases are -

1) Syphilis -

2) Gonorrhoea.

3) Chancroid.

7) Syphilis caused by protozoan *Trichomonas Pallidum*.

Gonorrhoea " " an oval bacterium.

Chancroid " " infection of Duesen's bacillus.

8) Venereal diseases are transmitted by direct
contact by person, or by the use of other
people's towels, drinking cups etc.

9) Venereal diseases could be checked by -

1) Elimination of prostitution.

2) Supervision of dance halls, night clubs etc.

3) Clinics for treatment of disease.

4) Education of the people and children.

10. Cancer is a malignant tumor of epithelial cells.

The Transmission of Communicable Diseases.

1. Communicable disease is any disease transferred from one person to another - a "catching" disease.
2. Cause is growth of a microscopic plant or animal.
- bacteria, viruses, protozoa.
3. Transmission by food of disease.
 - 1) Common eating & drinking material & utensils.
 - 2) Meat - paratyphoid, trichinosis.
 - 3) Milk - T.B. diphtheria.
 - 4) Water - typhoid, cholera.
 - 5) Ice - " " " "
4. Transmission by Contact.
 - 1) Direct contact - touching, kissing.
 - 2) Droplet infection - sneezing, coughing.
 - 3) Soiled articles - handkerchiefs, towels.
5. Transmission through Community Units.
 - 1) Public meeting rooms.
 - 2) Laundries.
 - 3) Hotels.
 - 4) Nurseries.
 - 5) Water systems.
 - 6) Sewage.
 - 7) Public fountains.
 - 8) Swimming pools.

6. Transmission by Insects.

- 1) Flea - plague
- 2) Lice - typhus
- 3) Mosquito - malaria
- 4) Lice - malaria,

7. Transmission by Soil.

-by micro-organisms in dust - gives lock-jaw.

8. Carriers of Disease.

- 1) Missed Cases.
- 2) Shell-fish.

9. Communicable disease germs live best in the body.

10. T.B. is the most dreaded of communicable diseases, inspection of cows & pasteurisation of milk are therefore very important.

1. Industrial.
 1. Smoke - must be regulated.
 2. Bakeries - odours must escape them.
 - good ventilation.
 - not near stables.
2. Slaughter houses.
 - tiled, stoned, drain connects sewer.
3. nuisances.
 - Public buildings must be clean & ventilated.
4. Offensive trades.
 - Regulations as to refining oil etc.
5. Disposal of Trade Wastes.
 - Not into municipal sewers or sea.
 - Burial grounds not over-crowded.
6. Sewage disposal.
 - 1) Sanitary privies.
 - ventilated & water-tight receptacles.
 - contents buried & disinfected.
 - 2) Septic tanks.
 - sewage disposal is in tank - addition of anaerobic bacteria - sewage ends in disposal field.

8. Sewage disposal from home goes into main sewer. - ~~disposal~~
- 1) Buy septic tank.
 - 2) Trickling beds. - concrete tanks of coke & disinfectant.
 - 3) Sludge treatment.
9. City controls disposal of sewage.
10. It is a modern problem, and is well solved in most cities, but not always in country places.

Ventilation.

Effects of bad air - headache, drowsiness, lassitude, dizziness, nervousness.

- respiratory diseases, T. B. pneumonia etc.
- imperfect aeration of blood, causes general debility + thus lowered resistance to fatigue + disease.

- 1) Avoid high temp.
- 2) High moisture content harmful.
- 3) Bad air decreases appetite + energy.

Most important factors in ventilation are -

- 1) Air currents.
- 2) Temp.
- 3) Humidity.

Lack of these - result in unsuitable activity of sweat glands of the heat-producing mechanisms + derangement of vasomotor reflexes - regulate supply of blood sent to the skin.

Air should be - clean, moist, warm, moving, changing temp.

- essential in personal hygiene.

Bedroom - aired at night, not over heated. also in day.

Practical suggestions

- 1) Temp should be 68° .
- 2) Air movements secured without draughts.
- 3) No moisture - dries m. m. of nose + throat.
- 4) Upper + lower openings in window.

Air-conditioning in Pullman.

- 1) Air drawn in by electric suction fan, filtered, cleansed of dust, pollen + impurities.
- 2) Blown over cooling + heating coils.
- 3) Warm air over cold coils, condensed + removes moisture of air - controls humidity + temp.

4. Refrigerating apparatus under car.
5. Refrigerant, cold water piped to cooling coils, non-toxic, non-poisonous, non-inflammable outlets + inlets designed to prevent violent circulation of air + drafts.
6. Car has range of balanced temp. + humidity in which comfort is in.

Houses -

1. Air free of dust + germs, good temp. + humidity.
 - water evaporated by pans of water on stoves.
 - hot water + fireplaces.
2. Window - double hung.
 - deflectors - open from bottom.
3. Air drawn into furnace, warmed, passed up ducts.
4. Thermostats + thermostats, humidifiers.

Schools.

1. Non-smoking
2. Window deflectors
3. Direct + indirect radiator systems.

Flues - pans at top - air comes down flues, passes through spray of H_2O or cheese cloth + is cleaned. The H_2O humidifies it at same time. Then sent to main air duct. Water + clothes cleaned often.

Industrial ventilation.

- 1) Natural - air movement due to differences between air pressure of ducts + outside air.
- 2) Mechanical - air movement by fans.

Restaurants - changed every 2 min.

Stores - 5-10 min.

Summers - harmful, poisonous, removed.

Woods - heavier than air - removed through side wall openings at floor level.

Dust collection - hygienic.

Ventilation of Mines -

- 1) Safety of workers.
- 2) Removal of gases & dust.
- 3) Control air flow in emergencies.

Regulators control + compel air to remote sections of mine especially in metal mines.
- air enters through downcast shaft - leaves through upcast shaft - exhaust fan at top.

Regulation + Suggestions.

Object of ventilation.

- 1) Change room air.
- 2) Regulate temp.
- 3) Keep air moving.
- 4) Avoid excessive dryness.

Methods of regular temp.

- 1) Use of potted plants.
- 2) Hot pans.

Tests of Ventilation.

- 1) Comfort of occupants.
- 2) Physiological + psychological ability.
- 3) Health of occupants.

Public Buildings + Camps.

- 1) Outside intake 1000 F.
- 2) Main discharge duct.
- 3) Connections of plant.
- 4) Ducts.



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